

CLAIMS

1. A crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, wherein said crystalline compound is the hydrochloride of said compound, the hydrobromide of said compound, the p-toluenesulfonate of said compound, the sulfate of said compound, the methanesulfonate of said compound or the ethanesulfonate of said compound, or the solvate of said salt.
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2. A crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate or the solvate of said salt.
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3. A crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate or the solvate of said salt.
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4. A crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate.
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5. A crystalline form of the hydrate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate.
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6. A crystalline form of the dimethyl sulfoxide solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate.
7. A crystalline form of the acetic acid solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate.
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8. A crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate.
9. A crystalline form of the dimethyl sulfoxide solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate.
10. A crystalline form according to claim 4 (Form A) having

diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 9.65° and 18.37° in a powder X-ray diffraction.

5 11. A crystalline form according to claim 4 (Form A) having peaks at chemical shifts of about 162.4 ppm, about 128.0 ppm, about 102.3 ppm and about 9.9 ppm in a ^{13}C Solid State Nuclear Magnetic Resonance spectrum.

12. A crystalline form according to claim 4 (Form A) having absorption bands at wavenumbers of $1161 \pm 1 \text{ cm}^{-1}$ and $1044 \pm 1 \text{ cm}^{-1}$ in an infrared absorption spectrum.

10 13. A crystalline form according to claim 4 (Form B) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 5.72° and 13.84° in a powder X-ray diffraction.

15 14. A crystalline form according to claim 4 (Form B) having absorption bands at wavenumbers of $1068 \pm 1 \text{ cm}^{-1}$ and $918 \pm 1 \text{ cm}^{-1}$ in an infrared absorption spectrum.

15 15. A crystalline form according to claim 4 (Form C) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 14.20° and 17.59° in a powder X-ray diffraction.

20 16. A crystalline form according to claim 4 (Form C) having peaks at chemical shifts of about 160.2 ppm, about 126.6 ppm, about 105.6 ppm and about 7.8 ppm in a ^{13}C Solid State Nuclear Magnetic Resonance spectrum.

25 17. A crystalline form according to claim 4 (Form C) having absorption bands at wavenumbers of $1324 \pm 1 \text{ cm}^{-1}$ and $579 \pm 1 \text{ cm}^{-1}$ in an infrared absorption spectrum.

18. A crystalline form according to claim 5 (Form F) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 8.02° and 18.14° in a powder X-ray diffraction.

30 19. A crystalline form according to claim 7 (Form I) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 9.36° and 12.40° in a powder X-ray diffraction.

20 20. A crystalline form according to claim 7 (Form I) having absorption bands at wavenumbers of $1750 \pm 1 \text{ cm}^{-1}$ and $1224 \pm 1 \text{ cm}^{-1}$ in an

infrared absorption spectrum.

21. A crystalline form according to claim 8 (Form α) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 15.70° and 17.18° in a powder X-ray diffraction.

5 22. A crystalline form according to claim 8 (Form α) having absorption bands at wavenumbers of $1320 \pm 1 \text{ cm}^{-1}$ and $997 \pm 1 \text{ cm}^{-1}$ in an infrared absorption spectrum.

10 23. A crystalline form according to claim 8 (Form β) having diffraction peaks at diffraction angles ($2\theta \pm 0.2^\circ$) of 6.48° and 9.58° in a powder X-ray diffraction.

15 24. A crystalline form according to claim 8 (Form β) having absorption bands at wavenumbers of $1281 \pm 1 \text{ cm}^{-1}$ and $985 \pm 1 \text{ cm}^{-1}$ in an infrared absorption spectrum.

20 25. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form A), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, a solvent and methanesulfonic acid to dissolve.

25 26. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form A), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, acetic acid and methanesulfonic acid to dissolve.

30 27. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form B), comprising a step of drying a crystalline form of the acetic acid solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form I) to remove acetic acid.

28. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-

quinolinecarboxamide methanesulfonate (Form C), comprising a step of heating a crystalline form of the dimethyl sulfoxide solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate.

5 29. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form C), comprising a step of mixing a crystalline form of the acetic acid solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-

10 quinolinecarboxamide methanesulfonate (Form I) and a solvent.

15 30. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-methoxy-6-quinolinecarboxamide methanesulfonate (Form C), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, acetic acid and methanesulfonic acid to dissolve.

20 31. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form C), comprising a step of humidifying a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form B).

25 32. A process for preparing a crystalline form of the hydrate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form F), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, acetic acid and methanesulfonic acid to dissolve.

30 33. A process for preparing a crystalline form of the acetic acid solvate of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide methanesulfonate (Form I), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, acetic acid and methanesulfonic acid to

dissolve.

34. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate (Form α), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, a solvent and ethanesulfonic acid to dissolve.

10 35. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate (Form β), comprising a step of mixing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate (Form α) and a solvent.

15 36. A process for preparing a crystalline form of 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide ethanesulfonate (Form β), comprising a step of mixing 4-(3-chloro-4-(cyclopropylaminocarbonyl)aminophenoxy)-7-methoxy-6-quinolinecarboxamide, acetic acid and ethanesulfonic acid to dissolve.

20 37. A pharmaceutical composition, comprising the crystalline form according to any one of claims 1 to 24.

38. A prophylactic or therapeutic agent for a disease for which angiogenesis inhibition is effective, comprising the crystalline form according to any one of claims 1 to 24.

25 39. An angiogenesis inhibitor, comprising the crystalline form according to any one of claims 1 to 24.

40. An anti-tumor agent, comprising the crystalline form according to any one of claims 1 to 24.

30 41. An anti-tumor agent according to claim 40, wherein the tumor is a pancreatic cancer, a gastric cancer, a colon cancer, a breast cancer, a prostate cancer, a lung cancer, a renal cancer, a brain tumor, a blood cancer or an ovarian cancer.

42. A therapeutic agent for angioma, comprising the crystalline

form according to any one of claims 1 to 24.

43. A cancer metastasis inhibitor, comprising the crystalline form according to any one of claims 1 to 24.

5 44. A therapeutic agent for retinal neovascularization, comprising the crystalline form according to any one of claims 1 to 24.

45. A therapeutic agent for diabetic retinopathy, comprising the crystalline form according to any one of claims 1 to 24.

46. A therapeutic agent for an inflammatory disease, comprising the crystalline form according to any one of claims 1 to 24.

10 47. A therapeutic agent for an inflammatory disease according to claim 46, wherein the inflammatory disease is deformant arthritis, rheumatoid arthritis, psoriasis or delayed hypersensitivity reaction.

48. A therapeutic agent for atherosclerosis, comprising the crystalline form according to any one of claims 1 to 24.

15 49. A method for preventing or treating a disease for which angiogenesis inhibition is effective, comprising administering to a patient, a pharmacologically effective dose of the crystalline form according to any one of claims 1 to 24.

20 50. Use of the crystalline form according to any one of claims 1 to 24 for the manufacture of a prophylactic or therapeutic agent for a disease for which angiogenesis inhibition is effective.